

Title - DEPOLYMERIZATION METHOD TO OLIGOMER CONSISTING ESSENTIALLY OF RING COMPOUND OF POLYALKYLENE ALKANOATE OR POLY(3-HYDROXYALKANOATE), AND METHOD FOR POLYMERIZING THE CYCLIC OLIGOMER

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PROBLEM TO BE SOLVED: To provide a method for converting a polyalkylene alkanoate and a poly(3-hydroxyalkanoate) to oligomers consisting essentially of repolymerizable ring compounds, and further to provide a method for producing the original polymers from the cyclic oligomers as a method of a low energy-consuming type and of a type acceptable by the environment by using an enzyme reaction.

SOLUTION: This method for producing the oligomer consisting essentially of the ring compound represented by structural formulas (1) (wherein, A is a 2-8C alkylene group; B is a 2-6C alkylene group; and m is an integer of 1-6) or (2) (wherein, R is a hydrogen atom or a 1-12C alkyl group; and n is an integer of 2-10) respectively comprises subjecting the polyalkylene alkanoate or the poly(3-hydroxyalkanoate) to the depolymerization in the presence of a hydrolytic enzyme. The method for producing the polymers comprises producing the polymers from the cyclic oligomers in the presence of the hydrolytic enzyme, or chemosynthetically producing the polymers from the cyclic oligomers.

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